

**INTEGRATED FREQUENCY SELECTABLE RESONANT  
COUPLING NETWORK AND METHOD THEREOF**

**ABSTRACT**

5           An integrated center frequency selectable resonant coupling network suited  
for use in an integrated circuit is disclosed. The network includes an integrated  
coupling transformer having a secondary winding for coupling to a load and a  
primary winding for coupling to a source; a first integrated capacitive circuit  
controllably coupled across one of the primary and secondary windings and when so  
10   coupled operable to resonate with the integrated coupling transformer at a frequency  
in a first frequency band; and a second integrated capacitive circuit coupled across a  
second one of the primary and the secondary windings that is operable to resonate  
with the integrated coupling transformer at a frequency in a second frequency band.  
The method is in an IC and includes providing and coupling an input signal within  
15   alternatively a first frequency band and a second frequency band to a primary  
winding of an integrated coupling transformer; controlling an integrated switched  
capacitor network, coupled to the transformer, to provide a coupling network that is  
alternatively and respectively resonant at a first and second frequency within the first  
and second frequency band thus selectively providing an output signal at a secondary  
20   winding of the transformer; and down converting the output signal.